Diverticulitis study update: Influence of inpatient dietary restriction on recovery from and reoccurrence of acute, uncomplicated diverticulitis

Crichton, Megan; Nucera, Romina; Jenkins, Julie; Canavan, Russell; Mahoney, Sophie; Eberhardt, Fiona; Dalwood, Phoebe; Dahl, Camilla ; Marshall, Skye

Influence of inpatient dietary restriction on recovery from and reoccurrence of acute, uncomplicated diverticulitis.

Megan Crichton, Romina Nucera, Julie Jenkins, Russel Canavan, Sophie Mahoney, Fiona Eberhardt, Phoebe Dalwood, Camilla Dahl, Skye Marshal

phoebedalwood@gmail.com

BOND UNIVERSITY

Queensland Government

Rationale

- Increasing incidences of diverticulitis and resulting hospital admissions (McSweeney & Srintha, 2017)
- Inconsistencies in practice of the dietary management of acute uncomplicated diverticulitis (van de Wall et al., 2013)
- No Australian guidelines on inpatient management
- International guidelines are conflicting, recommendations based on low quality evidence
- Practice is mostly eminence based, not evidence-based (Nguyen et al., 2011)
- Research behind long-term use of a high fibre diet is conflicting, outdated and of poor quality (Marlett et al., 2002)
- Conservative approach most commonly adopted by health professional in the treatment of acute uncomplicated diverticulitis
- Patients being prescribed food and fluid restrictions for a number of days

Rationale

nutrients

MDPI

Review

Evidence for Dietary Fibre Modification in the Recovery and Prevention of Reoccurrence of Acute, Uncomplicated Diverticulitis: A Systematic Literature Review

Camilla Dahl [1], Megan Crichton [1], Julie Jenkins [2,†], Romina Nucera [2,†], Sophie Mahoney [1], Wolfgang Marx [1,3] and Skye Marshall [1,*]

1 Faculty of Health Sciences & Medicine, Bond University, Robina, QLD 4226, Australia; camilla.dahl@student.bond.edu.au (C.D.); mcrichto@bond.edu.au (M.C.); Sophie.mahoney@student.bond.edu.au (S.M.); wmarx@bond.edu.au (W.M.)
2 Department of Nutrition and Dietetics, Robina Hospital, Robina, QLD 4226, Australia; juliejenkins11@gmail.com (J.J.); Romina.Nucera@health.qld.gov.au (R.N.)
3 School of Allied Health, La Trobe University, Melbourne, VIC 3086, Australia
* Correspondence: skye_marshall@bond.edu.au; Tel.: +61-7-559-55530
† These authors contributed equally to this work.

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Abstract: In practice, nutrition recommendations vary widely for inpatient and discharge management of acute, uncomplicated diverticulitis. This systematic review aims to review the evidence and develop recommendations for dietary fibre modifications, either alone or alongside probiotics or antibiotics, versus any comparator in adults in any setting with or recently recovered from acute, uncomplicated diverticulitis. Intervention and observational studies in any language were located using four databases until March 2017. The Cochrane Risk of Bias tool and GRADE were used to evaluate the overall quality of the evidence and to develop recommendations. Eight studies were included. There was "very low" quality evidence for comparing a liberalised and restricted fibre diet for inpatient management to improve hospital length of stay, recovery, gastrointestinal symptoms and reoccurrence. There was "very low" quality of evidence for using a high dietary fibre diet as opposed to a standard or low dietary fibre diet following resolution of an acute episode, to improve reoccurrence and gastrointestinal symptoms. The results of this systematic review and GRADE assessment conditionally recommend the use of liberalised diets as opposed to dietary restrictions for adults with acute, uncomplicated diverticulitis. It also strongly recommends a high dietary fibre diet aligning with dietary guidelines, with or without dietary fibre supplementation, after the acute episode has resolved.

Introduction to study

- Established in 2016 based at Robina Hospital, surgical ward (n=28 beds)
- This study aimed to:
- 1) Observe the effect of inpatient prescription of liberalised diets compared with restrictive diets on readmission rates, visits to general practitioner and gastrointestinal symptoms
- 2) Determine the effect of discharge prescription of standard diets (full diet) compared with low fibre diets on readmission rates, visits to general practitioner and gastrointestinal symptoms

Introduction to study

- 3-4 year prospective observational cohort study, based at Robina Hospital and Gold Coast University Hospital
- Recruitment period began December 2016 until March 2019
- We took over in the 3rd year of the study in 2018, when the study was expanded to include GCUH in June 2018
- Thank you to Todd, Julie, Romina, Tiffany & Alan, Meri, Jodi, Kat, Nat, Kate and Maddi for all of your assistance

Method

- Inclusion Criteria:
- Adult inpatients (≥18 years old), with a CT confirmed diagnosis of uncomplicated diverticulitis and managed with no surgery performed or drainage

- Exclusion Criteria:
- Pregnant, unable to give informed consent, discharged in <48hrs, not CT-proven diagnosis, or diagnosed with complicated diverticulitis

T1
<48 hours post-admission
Patient characteristics
Dietary prescription
Gastrointestinal symptoms
Markers of inflammation

T2
48 hours post-admission
Stool consistency
Markers of inflammation

T3
Discharge
Healthcare use (LOS)
Markers of inflammation

T4
30 days post-discharge
Dietary education Dietary intake
Healthcare use
Gastrointestinal symptoms

- T5: 6 month follow up via EMR assessed readmissions

Results

- 82 participants, 39 = restricted diet and 41 = liberalised diet
- Restricted diet: 64% female, mean age 57.6±13.3 years, mean BMI 27.0±4.3kg/m2
- Liberalised diet: 49% female, mean age 58.1±14.6 years, mean BMI 28.7±4.8kg/m2
- Liberalised diets in hospital were associated with a decreased length of stay of 1.1 days (95%CI: -1.8 to -0.4; p=0.004).
- 30-days post-discharge, no dietary, gastrointestinal symptom, or demographic characteristics predicted reoccurrence.

Discussion

- Limitations
  - Prospective, not randomised-controlled
  - Sample size, took ~3.5 years to reach the desired size of 80-100 participants
  - Short follow up period → ?type 2 error
  - 24 hour diet recall → ?food frequency questionnaire
  - Follow up phone calls – ?lost patients due to using a private number
- Future areas
  - Acceptability and feasibility of a liberalised vs. restricted diet
  - Patient opinions of diverticulitis admission and dietitian advice
  - Physician's decisions for diet prescription
  - Validity and reliability of GSRS in diverticulitis
  - Longer follow up period to assess high fibre diet in diverticulitis management

Conclusion

- This study shows that liberalised diets were associated with a shorter hospital length of stay compared to restricted diets
- No association of prescribed inpatient diet with diverticulitis reoccurrence or delayed recovery.
- This study further evidences a liberalised diet is safe and reduces burden on both the patient and the health care system.

Further & future research

- This study identified "usual practice" recommending a low fibre diet, with progression to a high fibre diet, was confusing and most never achieved a high fibre diet.
- A qualitative study at Robina Hospital supported the finding of this quantitative study for the use of a liberalised diet over restrictive diet
- Restrictive diets imposed a fear of food and unnecessary restrictions post hospital stay

(Eberhardt et al., 2019)

- A systematic review identified that no study has examined the use of a temporary low fibre diet for the post-acute phase, but high fibre diets are recommended long term.

(Eberhardt et al., 2019)

Future research

- DEMAND Trial is a 3-year single-blinded RCT
- To determine if temporary low fibre diet vs. a high fibre diet on discharge is harmful, beneficial, or has no effect
- The intervention will be discharge education implemented by the surgical dietitian at Robina, outcomes assessed by blinded bond MNDP students
- Outcomes will be gastrointestinal symptoms, recovery, disease recurrence, quality of life

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